AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A drive mechanism, comprising:

an electromechanical transducer having a pair of ends in an extending and contracting direction;

a drive member fixed to one of the pair of ends of the electromechanical transducer;

a driven member which is driven by the drive member and which contacts frictionally with the drive member under a predetermined frictional force exerting therebetween; and

a controller for supplying the electromechanical transducer with drive pulses, wherein the controller includes a driving circuit which generates a first set of the drive pulses for driving the driven member, and includes a frictional force reducing circuit which generates a second set of the drive pulses for reducing a frictional force exerting between the drive member and the driven member.

2. (Original) A drive mechanism as claimed in claim 1, wherein the second set of the drive pulses generated by the frictional force reducing circuit have sinusoidal waveforms.

3. (Original) A drive mechanism as claimed in claim 2, wherein the frictional force reducing circuit is arranged to change at least one of a frequency and an amplitude of the sinusoidal waveforms of the second set of the drive pulses so as to adjust the reducing amount of the frictional force exerting between the drive member and the driven member.

4. (Original) A drive mechanism as claimed in claim 1, wherein the drive pulses supplied to the electromechanical transducer by the controller have rectangular waveforms.

5. (Original) A drive mechanism as claimed in claim 1, wherein the drive pulses supplied to the transducer by the controller have rectangular waveforms, and wherein the controller is arranged to change a duty ratio of the rectangular waveforms thereof, so that the controller is allowed to drive the driven member and to reduce the frictional force exerting between the drive member and the driven member.

6. (Currently Amended) A drive mechanism as claimed in claim 1, further comprising ~~lever device in which~~ a lever member ~~is driven by the drive mechanism as claimed in claim 1~~ drivingly connected to said driven member so as to thereby form a lever device.

7. (Original) A drive mechanism as claimed in claim 1, further comprising a charge mechanism in which a spring extending and contracting in a moving direction of the driven member is disposed, and in which the spring is charged by movement of the driven member.

8. (Currently Amended) A drive mechanism as claimed in claim 7, further comprising a shutter mechanism ~~driven by the drive mechanism as claimed in claim 7~~ drivingly connected to said driven member.

9. (Original) A drive controlling method for controlling a drive mechanism which comprises:

an electromechanical transducer having a pair of ends in an extending and contracting direction;

a drive member fixed to one of the pair of ends of the electromechanical transducer; and

a driven member which is driven by the drive member and which contacts frictionally with the drive member under a predetermined frictional force exerting therebetween,

the drive controlling method comprising the steps of:

generating drive pulses; and

supplying the electromechanical transducer with the drive pulses, wherein a mode in which the driven member is moved, a mode in which a frictional force between the driven member and the drive member is reduced, and a mode in which the driven member rests relative to the drive member are switched over by changing waveforms of the drive pulses.

10. (Original) A drive controlling method as claimed in claim 9, wherein the drive pulses have sinusoidal waveforms.

11. (Original) A drive controlling method as claimed in claim 10, wherein the reducing amount of a frictional force exerting between the drive member and the driven member is adjusted by changing at least one of the frequency and the amplitude of the sinusoidal waveforms of the drive pulses.

12. (Original) A drive controlling method as claimed in claim 9, wherein the drive pulses have rectangular waveforms.

13. (Original) A drive controlling method as claimed in claim 12, wherein a duty ratio of the rectangular waveforms of the drive pulses is changed so as to drive the driven member and so as to reduce a frictional force exerting between the drive member and the driven member.

14. (New) A method for controlling a drive mechanism, said drive mechanism including an electromechanical transducer, a drive member fixed to the electromechanical transducer, and a driven member frictionally coupled to said drive member, the controlling method comprising the steps of:

selectively generating one of a first mode of drive pulses and a second mode of drive pulses; and

supplying the electromechanical transducer with the drive pulses;

wherein said first mode of drive pulses are adapted to cause the driven member to be driven relative to the drive member and said second mode of drive pulses are adapted to reduce a frictional force between the driven member and the drive member, said first mode and said second mode being selectively invoked by changing waveforms of the drive pulses.

15. (New) A method for controlling a drive mechanism in accordance with claim 14, wherein said first mode of drive pulses are adapted to cause the driven member to be driven in an extending and contracting direction relative to the drive member, a velocity of said drive member in an extending direction being different than a velocity of said drive member in a contracting direction so as to move the driven member along the drive member.

16. (New) A method for controlling a drive mechanism in accordance with claim 15, wherein said second mode of drive pulses are adapted to cause the driven member to be driven in an extending and contracting direction relative to the drive member, a velocity of said drive member in an extending direction being substantially equal to a velocity of said drive member in a contracting direction so as to reduce a frictional force between said drive member and said driven member while preventing said driven member from being substantially moved with respect to the drive member.

17. (New) A drive mechanism, comprising:

a transducer capable of extending and contracting;

a drive member fixed to said transducer;

a driven member frictionally coupled to said drive member; and

a controller adapted to supply the transducer with drive pulses, said pulses including:

a first mode of pulses for actuating said transducer in a first manner so as to cause a first mode of motion of said drive member suitable for inducing a net relative movement between said drive member and said driven member, and

a second mode of pulses for actuating said transducer in a second manner so as to cause a second mode of motion of said drive member suitable for reducing a frictional force between said driven member and said drive member without inducing a net relative movement therebetween.

18. (New) A drive mechanism in accordance with claim 17, wherein said first mode of pulses actuates said transducer in a manner to move the drive member in accordance with an extension and contraction of the transducer, a velocity of said drive member in an extending direction being different than a velocity of said drive member in a contracting direction so as to move the driven member along the drive member.

19. (New) A drive mechanism in accordance with claim 17, wherein said second mode of pulses actuates said transducer in a manner to move the drive member in accordance with an extension and contraction of the transducer, a velocity of said drive member in an extending direction being substantially equal to a velocity of said drive member in a contracting direction so as to reduce a frictional force between said drive member and said driven member while preventing said driven member from being substantially moved with respect to the drive member.